

**Appendix B**  
**510(k) Summary in accordance with 21 CFR 807.92(c)**

DEC 20 2012

**Device Name:** Osseolive® DENTAL

**Type of 510(k) submission:** Abbreviated

**Date of Submission:** 15 April 2011

**Manufacturer:**  
 Curasan AG,  
 Frankfurt Facility  
 Ernst-Wiss-Strasse 18  
 65933 Frankfurt  
 Germany

**FDA Registration Number:** 3004847139

**510(k) Owner:**  
 Curasan AG  
 Lindigstrasse 4  
 63801 Kleinostheim  
 Germany

Phone: +49 (0)60 27 40 900 0  
 Fax: +49 (0)60 27 40 900 29

**FDA Registration Number:** 3003771570

**510(k) Submitter and Contact:**  
 Mr Roger Gray  
 VP Quality and Regulatory  
 Donawa Lifescience Consulting  
 Piazza Albania 10  
 00153 Rome  
 Italy

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 Email: rgray@donawa.com

**FDA Product Code:** LYC

**FDA Regulation Number:** 872.3930

**FDA Classification Name:** Dental Bone Grafting Material

**Common Name:** Glass ceramic bone grafting material

**FDA Panel:** Dental

**FDA Classification:** Class II

**FDA Identification:** Bone grafting material is a material such as hydroxyapatite, tricalcium phosphate, polylactic and polyglycolic acids, or collagen, that is intended to fill, augment, or reconstruct periodontal or bony defects of the oral and maxillofacial region.

**FDA Guidance Applied:** Class II Special Controls Guidance Document: Dental Bone Grafting Material Devices

**Indications for Use:**

Osseolive® DENTAL is indicated for applications in oral and maxillofacial surgery and dentistry, including filling and/or reconstruction of multi-walled (artificial or degenerative) bone defects, e.g.:

- Defects after the extirpation of bone cysts
- Augmentation of an atrophied alveolar ridge
- Sinus lift or sinus floor elevation (subantral augmentation)
- Filling of alveolar defects after tooth extraction for preservation of the alveolar ridge
- Filling of extraction defects to create an implant bed
- Filling of two- or multi-walled bone pockets as well as the bi- and trifurcation defects
- Defects after operative removal of retained teeth or corrective osteotomies

**Technological and Performance Characteristics:**

Osseolive® DENTAL is a synthetic absorbable radiopaque silicated calcium-alkali-phosphate ceramic for filling, bridging and reconstructing bone defects and for bone fusion in dental and maxillofacial applications.

**Description**

Osseolive® DENTAL has an open-cellular porosity of about 80% and is available as polygonal granules of various grain sizes. It is resorbed by the body over a period of months and simultaneously substituted by local autologous bone. As a synthetic, bioactive ceramic material Osseolive® DENTAL has excellent intra- and extra-osseous tissue compatibility and is neither locally nor systemically toxic.

Osseolive® DENTAL is a calcium-potassium-sodium phosphate with an open sintered structure. Osseolive® DENTAL morsels are highly porous, available in different grain size fractions between 150 and 2000 µm. The high porosity allows blood components and body fluids to penetrate the material rapidly and unhindered.

The chemical composition is a modification of tricalcium phosphate, where one calcium atom is replaced by one potassium atom and one sodium atom, resulting in increased solubility.

Doping this glass ceramic with 4% sodium-magnesium-silicate on interstitial positions ensures the maximum mechanical stability.

Osseolive® DENTAL has a resorption time of 3 to 12 months.

Osseolive® DENTAL morsels are packaged for sale in glass vials.

**Predicate Device Comparison:**

The predicate devices selected for comparison with Osseolive® DENTAL are identified as follows:

**Device:** ..... PerioGlas  
**510(k) Sponsor:** ..... NovaBone Products, LLC  
**510(k) Number:** ..... K053387  
**Clearance Date:** ..... 14 February 2006  
**FDA Product Code:** ..... LYC  
**Classification Name:** ..... Bone grafting material, synthetic  
**Regulation No:** ..... 872.3930

**Device:** ..... Ceracell® DENTAL  
**510(k) Sponsor:** ..... Curasan AG  
**510(k) Number:** ..... K103709  
**Clearance Date:** ..... 10 March 2011  
**FDA Product Code:** ..... LYC  
**Classification Name:** ..... Bone grafting material, synthetic

**Regulation No:**.....872.3930

**Device:**.....Cerasorb® M DENTAL

**510(k) Sponsor:**.....Curasan AG

**510(k) Number:**.....K051443

**Clearance Date:**.....22 July 2005

**FDA Product Code:**.....LYC

**Classification Name:**.....Bone grafting material, synthetic

**Regulation No:**.....872.3930

**Bench test summary:**

Comparative testing of the subject device and predicate devices was undertaken by a GLP compliant third party test laboratory. The following material characteristics were assessed for each device for comparison purposes:

- Analyses of inorganic elements
- Determination of bulk density according to USP 34 <616> and porosity
- X-ray characterization
- FTIR characterization
- Characterization of crystallinity
- Phase analyses
- Determination of the specific surfaces (B.E.T. method) according to ASTM C 1251 and ASTM D 4780
- Micro structure characterization according to ISO 6474 and ASTM E 112
- Determination of Ca/P ratio per mass test material
- Identification and qualification of degradation products according to DIN EN ISO 10993-14
- Determination of the pH value according to USP 34 <791>

**Comparison summary:**

The majority of the device characteristics for Osseolive® DENTAL are similar to one or more of the predicate devices. Where they are not similar, the differences have no significant effect on device safety or effectiveness.

**Conclusion:**

Based on the information contained within this submission, it is concluded that the Osseolive® DENTAL is substantially equivalent to the identified predicate devices already in interstate commerce within the USA.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Center – WO66-G609  
Silver Spring, MD 20993-0002

December 20, 2012

Curasan AG  
C/O Mr. Roger Gray  
Vice President Quality and Regulatory  
Donawa Lifescience Consulting SRL  
Piazze Albania 10  
Rome, Italy 00153

Re: K111105

Trade/Device Name: Curasan Osseolive® DENTAL  
Regulation Number: 21 CFR 872.3930  
Regulation Name: Bone Grafting Material  
Regulatory Class: II  
Product Code: LYC  
Dated: December 14, 2012  
Received: December 17, 2012

Dear Mr. Gray:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

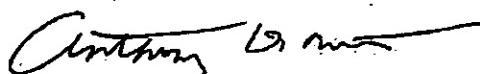
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please go to <http://www.fda.gov/AboutFDA/CentersOffices/CDRH/CDRHOffices/ucm115809.htm> for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to

<http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,



Anthony D. Watson, B.S., M.S., M.B.A.  
Director  
Division of Anesthesiology, General Hospital,  
Respiratory, Infection Control and  
Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## Appendix A

### Indications for Use Statement

**510(k) Number (if known): K111105**

**Device Name:** Curasan Osseolive® DENTAL

**Indications for Use:** Osseolive® DENTAL is indicated for applications in oral and maxillofacial surgery and dentistry, including filling and/or reconstruction of multi-walled (artificial or degenerative) bone defects, e.g.:

- Defects after the extirpation of bone cysts
- Augmentation of an atrophied alveolar ridge
- Sinus lift or sinus floor elevation (subantral augmentation)
- Filling of alveolar defects after tooth extraction for preservation of the alveolar ridge
- Filling of extraction defects to create an implant bed
- Filling of two- or multi-walled bone pockets as well as the bi- and trifurcation defects
- Defects after operative removal of retained teeth or corrective osteotomies

Prescription Use  
(Part 21 CFR 801 Subpart D)



AND/OR

Over-The-Counter Use  
(21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

Susan Runner DDS, MA  
2012.12.20  
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(Division Sign-Off)  
Division of Anesthesiology, General Hospital  
Infection Control, Dental Devices

510(k) Number: K111105